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Date

[Signature] 05/13/08

Attorney Docket No. 2003P04639US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

Nadadur et al.

Serial No.: 10/608,284

Filed: June 27, 2003

For: Medical Image User Interface for
Cardiac Imaging

Examiner: Nguyen

Group Art Unit: 2174

REPLY BRIEF

Mail Stop Appeal Brief - Patents
Commissioner for Patents
P.O. Box 1450
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This Reply Brief is in response to the Examiner's Answer mailed March 14, 2008.

In the Examiner's Answer of March 14, 2008, the Examiner stated that "features upon which applicant relies (i.e. view image frames at the same portion of the cardiac cycle) are not recited in the rejected claims(s)." Applicants disagree. As a first matter, Applicants are not relying upon the feature cited by the Examiner. To the contrary, it is Rafter et al. that describes this feature, and independent Claims 1, 17, and 27 recite elements that distinguish this feature. Specifically, Rafter et al. teaches the use of an end-systolic pushbutton 761 and an end-diastolic pushbutton 763 to view image frames at the *same portion* of the cardiac cycle — *either* at end of systole (when the end-systolic pushbutton 761 is pushed) *or* end of diastole (when the end-diastolic pushbutton 763 is pushed). In contrast, independent Claims 1, 17, and 27 each recite elements relating to displaying a plurality of image frames of the sequence of image frames acquired at both end-diastolic (ED) and end-systolic (ES) portions of the beating heart's cycle.¹ Accordingly, contrary to the Examiner's assertion, the claims do recite the feature that Applicants are relying upon.

The Examiner also asserted that the claim language does not require that images acquired at end-diastolic and end-systolic be simultaneously displayed and, as such, read on Rafter et al. when used to sequentially display end-diastolic and end-systolic images by first pressing the end-systolic pushbutton 761 and, at a later time, pressing the end-diastolic pushbutton 763.

¹ Claim 1: "displaying a plurality of image frames of the sequence of image frames of the medical image in a second display area, wherein the plurality of image frames are acquired at end-diastolic (ED) and end-systolic (ES) portions of the beating heart's cycle"

Claim 17: "displaying . . . a plurality of image frames of the sequence of image frames of the medical image in a second display area, wherein the plurality of image frames are acquired at end-diastolic (ED) and end-systolic (ES) portions of the beating heart's cycle"

Claim 27: "a processor operative to . . . display . . . a plurality of image frames of the sequence of image frames of the medical image in a second display area on the at least one display device, wherein the plurality of image frames are acquired at end-diastolic (ED) and end-systolic (ES) portions of the beating heart's cycle"

Applicants respectfully disagree, as the claims already require that the images be simultaneously displayed.

Turning first to the claim language itself, each of the independent claims recite displaying a plurality of image frames acquired at end-diastolic (ED) and end-systolic (ES) in a display area. By reciting that “a **plurality** of image frames” are displayed “***in a display area***,” the claims make clear that the display area displays a plurality of image frames – not just one image frame at a given moment in time. This interpretation is not only supported by the specification, but it is also supported by the elements recited in the dependent claims. For example, dependent Claims 2, 18, and 28 recite a relationship regarding the size of the image ***frames*** displayed in the second display area. By referring to the “frames” (plural) displayed in the second display area, the dependent claims make clear that the displaying element in the independent claims requires simultaneous – not sequential – display of the end-diastolic and end-systolic images. As another example, dependent Claim 4 recites “***scrolling the plurality of image frames*** displayed in the second display area.” By using the word “scrolling,” Claim 4 makes clear that independent Claim 1 requires a plurality of image frames be simultaneously displayed, as “scrolling” would not make sense in the context of sequential displaying. Additionally, dependent Claim 5 recites “receiving a ***selection of an image frame*** displayed in the second display area.” Claim 5 makes clear that independent Claim 1 requires a plurality of image frames to be simultaneously displayed, as selecting an image frame suggests that there is more than one image frame from which to select.

Applicants also note that, throughout prosecution, the Examiner has been interpreting the claims to require simultaneous display. For example, on page 3 of the Office Action of June 20, 2007 Office Action, the Examiner’s pointed to two images in Kaufman that are simultaneously

displayed as teaching the recited element of displaying a plurality of image frames in a display area. As another example, for the purported suggestion to combine Kaufman and Rafter et al. to yield the claim elements, the Examiner stated "it is often desirable and useful to observe and *compare multiple images* of the heart." June 20, 2007 Office Action, page 3 (emphasis added). The word "compare" along with the assertion that Kaufman teaches the display of a plurality of images clearly shows that the Examiner has been interpreting the claims to require simultaneous display. To change the interpretation of the claim at this point is tantamount to presenting a new ground of rejection, which would require the Examiner to reopen prosecution.

Finally, Applicants note that it is significant that the Examiner did not reply to Applicants' argument that one skilled in the art would not have combined Geiser et al., Rafter et al., and Kaufman et al. because Kaufman et al. teaches away from such a combination. Applicants respectfully submit that the Examiner's lack of response to this argument indicates the strength of Applicants' argument.

In conclusion, Applicants respectfully submit that the outstanding rejections should be withdrawn and that this application should be passed to allowance. Reconsideration is respectfully submitted. If there are any questions, please contact Joseph F. Hetz (Reg. No. 41,070) at (312) 321-4719.

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Respectfully submitted,



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